IEEE EMBEDDED PROJECTS LIST: 2016 – 17

NEMS 1. Demonetization – Black Money - IOT: EFFECTIVE IDENTIFICATION OF BLACK MONEY, FAKE CURRENCY & EXPIRY USING NFC, IOT & ANDROID

ARCHITECTURE DIAGRAM:

DESCRIPTION: In **EXISTING SYSTEM,** to destroy the black money is not possible. Because of the people are not pay the correct tax amounts. The current issue in India is fake money and black money. In the **PROPOSED SYSTEM**, we first investigate the classic tax evasion cases, and employ a graph-based method to characterize their property that describes two suspicious relationship trails with a same antecedent node behind an Interest Affiliated Transaction (IAT). In **MODIFICATION PROCESS** is our implementation. NFC tag (Value, Serial Number & Expiry date) is attached with the Currency. 1. Money Counting Device is installed in every office for billing purpose. 2. For Mobile vendors NFC Reader is attached with the Android Phone. In both these two cases Currency details are dynamically transferred to the RBI Server. 3. We also implement QR code based amount transaction via Android Application 4. We are also implementing cashless transaction using card. Using all of the above four methodologies RBI can easily track of all the transactions (Income & Expenditure) made by every user. SMS Alert is done for currency expiry.

DOMAIN: IOT, Embedded, Android, Society / Social Cause

IEEE REFERENCE: IEEE Transaction on Knowledge and Data Engineering, 2016

77/2,HABIBULLAH ROAD, T. NAGAR, CH – 17. PH : 98409 47370 / 2834 2821 / 2822

EMS 2001. User Behavior Check: INTEGRATION OF MULTI BANK MULTI USER IN SINGLE CARD WITH USER BEHAVIOR MONITORING USING FACE RECOGNITION, HMM & FORMULA

ARCHITECTURE DIAGRAM:

DESCRIPTION: In the **EXISTING SYSTEM**, Big data is really opportunity based environment. Big data analytics would definitely lead to valuable knowledge for many organizations. In the **PROPOSED SYSTEM**, Integration of Big Data, Business analytical and RFID like technology is supposed to be recent trends in IT. It is most challenge oriented activity. The **MODIFICATION**, which is our implementation, we are developing this application for a Banking sector particularly for a Debit / ATM card section. We can use RFID smart card as ATM Card for transaction. User can add multiple Accounts ATM Card access in a single card for better and easy Transaction. User is not required to carry multiple ATM cards all times. This system is called as Multi Bank Access system. We are also integrating Multi User ATM Card also. Here the user can add his / her relatives like Father, Mother, Wife, Brother & Sister's TM card info also in his / her account so that user can access whenever it is necessary. User behavior is monitored through HMM Model. We also implement Face Recognition for effective and secured Card access.

DOMAIN: **Matlab**, **IOT, Big Data, Cloud, Society / Social cause**

IEEE REFERENCE: IEEE Transaction on Cybernetics, 2016

EMS 2002. Flood Alert - No Tower - IOT: EFFECTIVE FLOOD ALERT WITH ANDROID & IOT BASED EMERGENCY SUPPORT IN NETWORK UNIDENTIFIED ZONE

ARCHITECTURE DIAGRAM:

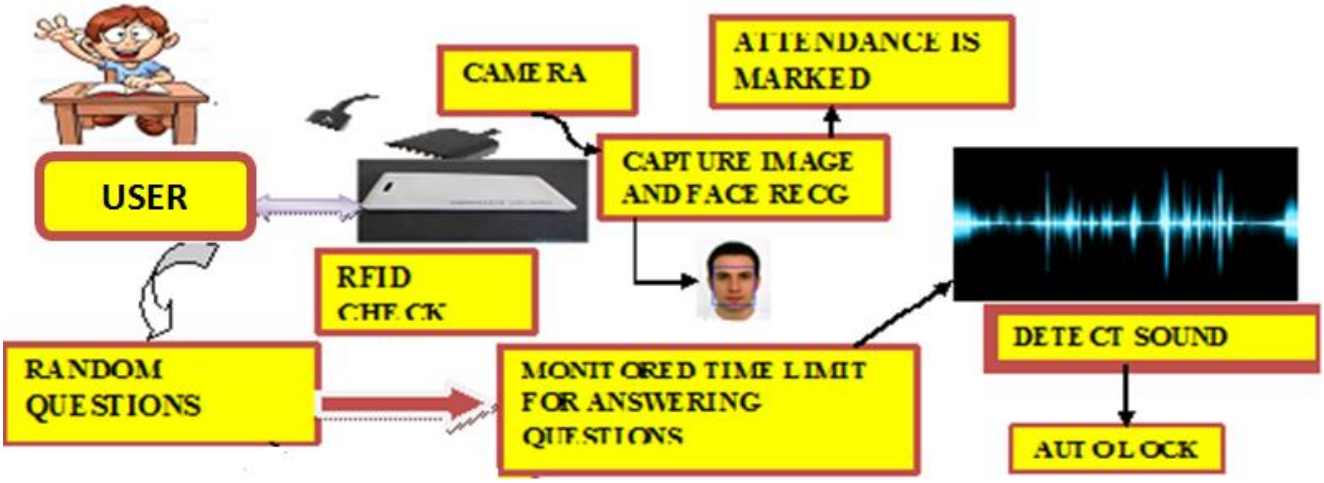
DESCRIPTION: In **EXISTING SYSTEM,** people are facing drastic Human & Monetary lose due to the unexpected and sudden release of water. The **PROPOSED SYSTEM,** distributed system using water & flow level sensors are deployed all over and monitored, gathered to the centralized server for speedy & emergency support. In the **MODIFICATION PART**, an android app is deployed in all the Mobiles of the Public. Zigbee hardware is connected to the mobiles via OTG communication when network is not present. Zigbee is connected in the Dam for immediate communication of water & its flow level to communicate with the regional server where another Zigbee is connected. Public can communicate to the regional server to fetch the levels of water release & emergency alert is provided in case of excess water release from the Dam. This event will happen with Network presence or without network presence. User can also make Emergency call / send SMS to the prestored numbers like Hospitals / Corporation / Police / Relatives. User can also fetch Safe Zone live Mapping with internet or stored images without Internet.

DOMAIN: IOT, Wireless, Android, Social / Society based

IEEE REFERENCE: IEEE Paper on ICWE, 2016.

EMS 2003. Exam Behavior Tracking: EFFECTIVE ATTENDANCE MARKING USING FACE RECOGNITION & RFID, BEHAVIOR MONITORING & PERFORMANCE ANALYSIS - APP

ARCHITECTURE DIAGRAM



DESCRIPTION: In the **EXISTING SYSTEM**, Attendance is System is pretty Old Technology to call the names of the Students Manually. Proxy Attendance is quiet comfortably happening in it. In the **PROPOSED SYSTEM,** RFID system is used to monitor the student attendance but has some drawbacks. In the **MODIFICATION** part is our implementation. In the examination hall every student is provided with System and RFID Reader. RFID tag is verified then Camera is initiated and Face Recognition is processed using Matlab. Attendance system is made automatic. After verification, random set of questions are generated to the user. Time limit for answering every question is monitored and buzzer is initiated to the invigilator in case of any malpractice like, Detection of Sound, movement of Student. Finally result is displayed on Screen and the Data is stored in Cloud server.

DOMAIN: Matlab, Image Processing, IOT, Society

IEEE REFERENCE: IEEE Paper on CSVT, 2016

EMS 2004. Rural Medical ATM: ESTABLISHMENT OF DYNAMIC MEDICAL MACHINE - ACCESS OF BEST DOCTOR, MEDICATION WITH MEDICAL INVESTIGATIONS & THROUGH VIDEO CONFERENCING FROM REMOTE RURAL

ARCHITECTURE DIAGRAM

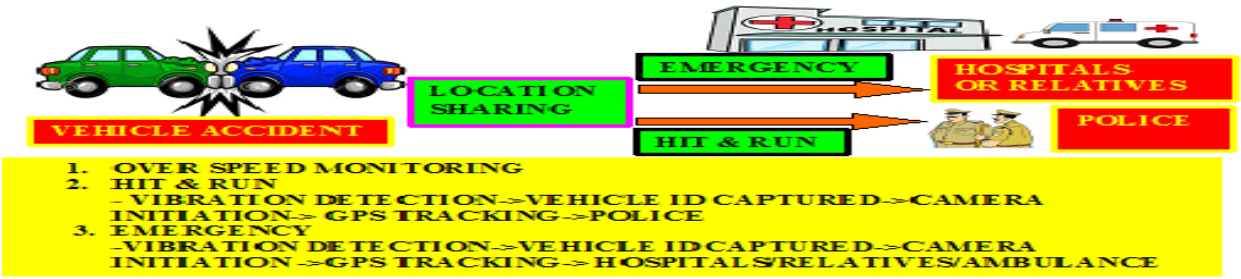
DESCRIPTION: In the **EXISTING SYSTEM**, patient has to go to hospital, take all the necessary tests, consult a doctor, and then buy their prescribed medicine. This takes more time both in the hospital and the medical shop. In the **PROPOSED SYSTEM**, (ATM MEDICAL MACHINE) AMM is to establish a Telemedicine Conference System from the Remote place by both the Distinguished Doctors and Patients. ATM machine like instrument is installed in the Rural place for better Medical Treatment and Diagnosis for the Rural People. The **MODIFICATION** part is our implementation. We deploy the Anytime Medical Counter in all the rural areas where people cannot get good / best doctor on track. We install Heart Beat, Temperature sensor; Ultrasonic sensor, load cell, Camera and Head phone are also connected to the Medical machine. Medical counter user and is monitor from the remote area. Application is installed in both the ends for voice communication & chatting with doctor. Doctor examines the Patient and prescribes the medicines and the Medicine Dispatcher will Dispatch the Medicines from the AMM machine to the user. Medicines are updated in the cloud server. User can send the request to the server to get the tablets intake timings.

DOMAIN: IOT, Bio-Medical, Wireless, Cloud, Society / Social Cause

IEEE REFERENCE: IEEE Paper on ICECS, 2016.

EMS 2005. Lock the Accused – IOT: EFFECTIVE OF TRACKING OF MISBEHAVIOR DRIVER & OVER SPEED MONITORING WITH EMERGENCY SUPPORT TO THE VICTIM

ARCHITECTURE DIAGRAM:



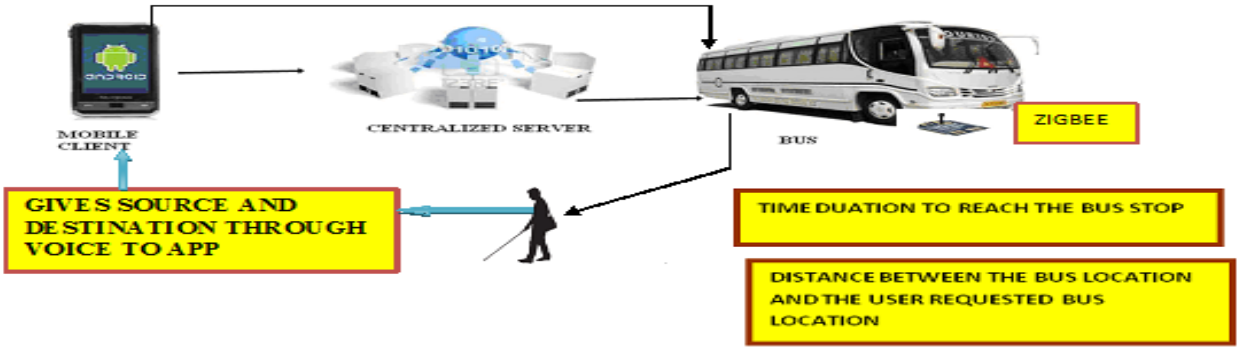
DESCRIPTION: In the **EXISTING SYSTEM,** lots of accidents are happening around us, but still very less accident makers are identified. The **PROPOSED** system of the Project is to analyze the driver's behavior. Its measures speed variation, rash driving. This System will identify the reason of Accident occurred. **MODIFICATION** of the Project is our Implementation, Speed of all the Vehicles are monitored. If any vehicle goes beyond the permitted vehicle then warning is given twice to the driver, if speed is continued then mobile camera attached with the vehicle is initiated and photo is taken. Then photo and vehicle details are updated to the server and fine amount is subtracted automatically. Vibration Sensor is attached with the Vehicle is used to detect the accident event. If collusion occurs then automatically Vibration is initiated & buzzer is triggered. If both the drivers of the vehicles turn off the buzzer then it is considered as "Normal". If one vehicle turns off the buzzer and there is no response from another then both the vehicles are made to off state, police is initiated to the 1st vehicle and Ambulance is initiated to the 2nd vehicle. In both the vehicles Camera & GPS is initiated and location info is tracked completely to identity the Hit &Run driver. Life support is provided to the 2nd vehicle.

DOMAIN: IOT, Automobile, Cloud, Wireless, Society / Social Cause

IEEE REFERENCE: IEEE TRANSACTIONS on MOBILE COMP.

EMS 2006. Bus to House: VOICE & TOUCH BASED DYNAMIC BUS NAVIGATION SYSTEM BASED ON ZIGBEE, IOT & ANDROID

ARCHITECTURE DIAGRAM:



DESCRIPTION: In the **EXISTING SYSTEM**, there is no tracking of Buses happening. GPS based Vehicle is only the solution but still arrival Timing of the Buses are not intimated to the bus stop. In the **PROPOSED MODEL**, GPS Hardware is attached in every bus for the continuous tracking of the vehicle. The most important part of this project is to get Buses into passenger's houses as Call taxi is functioning. This system will avoid traditional route of the buses. The **MODIFICATION** Process is our implementation. We deploy an android based application on all customer's mobile and customer can book the bus from their android application either through normal touch based or by Voice. Voice based booking is helpful for the visually impaired people. One Zigbee is attached with the bus and another Zigbee is attached with the server. Android user requests the query specifying Source & the destination to the server. Server will verify the nearest available bus analyzing through buses mobility status via Zigbee. If there is no request for a particular stop bus will dynamically reroutes to another shortest route without crossing that stop.

DOMAIN : Wireless, IOT, Cloud, Android, Social / Society based

IEEE REFERENCE: IEEE TRANSACTIONS on ITS, 2016

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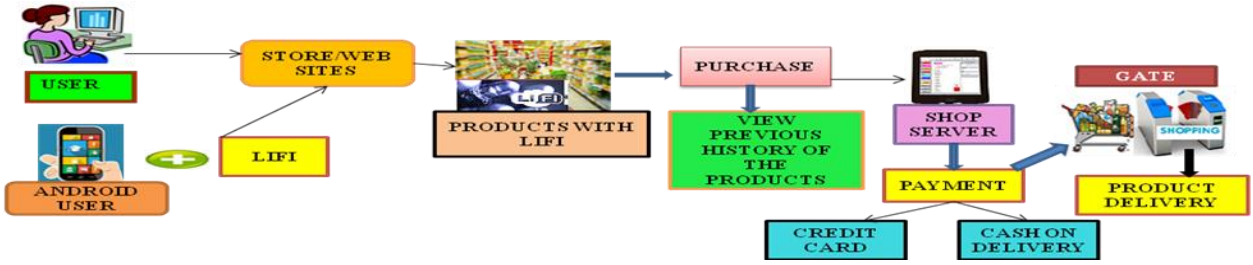
EMS 2007: Procure Me Easily: EFFECTIVE AVOIDANCE OF QUEUING & ANALYZING USER BEHAVIOR - ANDROID & IOT

ARCHITECTURE DIAGRAM:



DESCRIPTION: In **EXISTING SYSTEM** RFID and Barcode readers are widely used in real time for shopping. But this technology is not giving the proper solution for long queue while purchasing. In **PROPOSED SYSTEM,** it is just giving the communication establishment between the transmitter and receiver light communication. Queue Sense with clients on smart phones based on Android platforms and a server in the cloud. Smartphone's widely available sensors such as accelerometer, compass and Bluetooth to sense individual activities. The **MODIFICATION** part is our implementation. We include LiFi in our Project. Android Application is deployed on the Consumer Phone which is attached with LiFi Hardware via OTG. Every Product is attached with LiFi Module. User will have to show the product in front of the Mobile so that corresponding Product info is automatically updated. This includes Product ID & Cost. LiFi Module is also connected with the Trolley. Android user can pay the bill via mobile phone and the details are updated to the shop server. Shop server communicates to the Gate hardware, where another LiFi is connected. Trolley communicates with the Gate section so that the products are packed safely without standing in the queue. Normal mobile users can place the order via computer & cash is paid on COD mode. User's previous purchase & offers of the day are also analyzed. Cloud is used.

DOMAIN: IOT, Wireless, LiFi, Android, Cloud, Society / Social Cause

IEEE REFERENCE: IEEE TRANSACTION on Mobile Computing, 2016

NEMS 2. Find my Safe Range - IOT: IDENTIFICATION OF SAFETY RANGE WITH DANGER ZONE ALERT SYSTEM IN TRIZONAL AREA FOR FISHERMEN SAFETY USING IOT, RSSI

ARCHITECTURE DIAGRAM

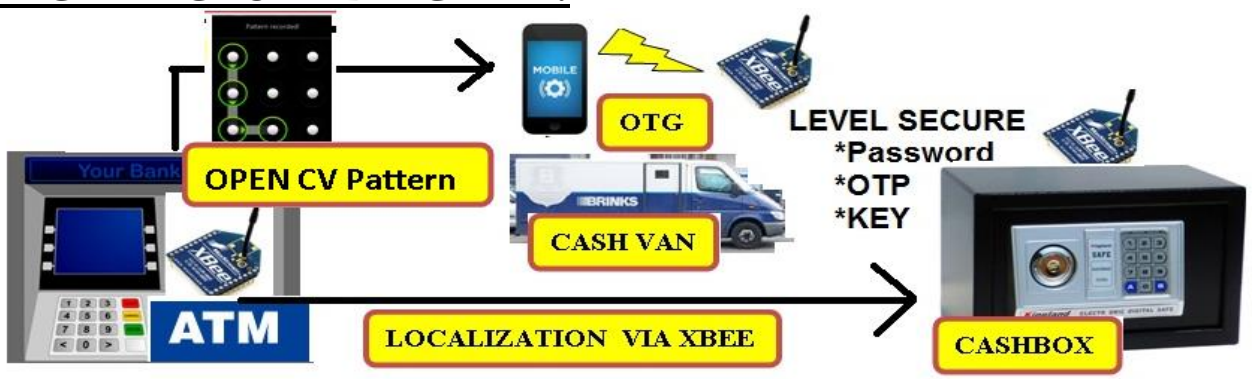
DESCRIPTION: In the **EXISTING SYSTEM**, there is no life security or guarantee provided to the Fishermen People. In the **PROPOSED** system the most important problem for the fishermen during fishing is to track their location in the sea. For this, the sea area is divided into three zones as Safety, Intermediate and Danger Zones for security purposes. In the **MODIFICATION** part is RSSI system is followed. The boat is allowed to roam anywhere within the safety zone. A buzzer alert will be given to the fishermen if the boat crosses the intermediate zone and danger zone. If the boat crosses the danger zone, the boat will be returned to the safety zone or intermediate zone within 30 minutes. In case the boat is not reached to the safety or intermediate zone within 30 minutes automatically the boat will be stopped, then intimation is sent to the control room for emergency help based on signal strength. The different Ranges are identified using RSSI.

DOMAIN: IOT, Android, Python, Robotics, Society Based

IEEE REFERENCE: IEEE Paper on IEU, 2016

NEMS 3. ATM Safe – IOT, Open CV Password : INTEGRATION OF TRIANGULAR LOCATION DETCETION, IOT & OPEN CV BASED USER AUTHENTICATION FOR SECURED ATM

ARCHITECTURE DIAGRAM:



DESCRIPTION: In the **EXISTING SYSTEM**, User Access & Authentication System functions using Personal Identification (or) Touch Panel based Signature in the form of Password / PIN for Access. In the **PROPOSED SYSTEM**, Bluetooth based Signature is analyzed which user user enters through on screen Software Keyboard. The **MODIFICATION** which is our Implementation, we are implementing Open CV for User Signature like pattern Recognition. Our implementation is deployed for ATM Loading Vehicle. We deploy 3 Zigbees, one is attached with Vehicle, another is with the Mobile phone of the Authority and the last one is with the ATM Machine. Once all the Zigbees meet together, which means vehicle is at the ATM, then OTP is Generated and Verified by ATM Zigbee via Vehicle Zigbee. Apart from OTP, User Signature is verified using Open CV before loading cash into the ATM Machine.

DOMAIN: IOT, DIP, OPEN CV, DIP, Android, Python, Society

IEEE REFERENCE: IEEE transaction on Dependable & Secure Computing 2016

EMS 2008. Charge Vehicle: NEAR-OPTIMAL VELOCITY CONTROL FOR MOBILE CHARGING IN WIRELESS RECHARGEABLE SENSOR NETWORKS

ARCHITECTURE DIAGRAM

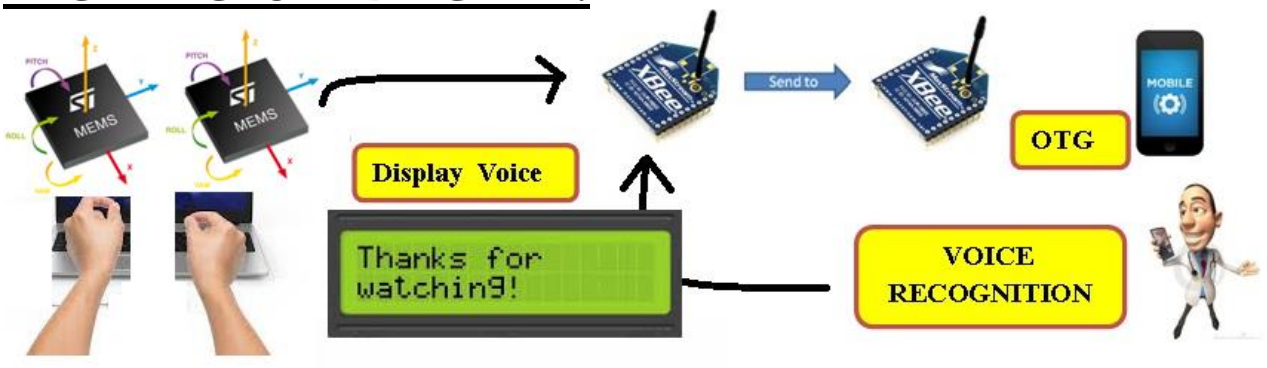
DESCRIPTION : In the **EXISTING SYSTEM**, we are using chargers for charging the mobile phones. In the **PROPOSED SYSTEM** with the help of solar panel charging a battery operated vehicle and that power is used for charging from other mobile vehicle. In our **MODIFICATION**, we construct a Robot which is charged using Solar panel, Wireless Power Transmitters & IR Sensors are connected with it and starts transmitting the Power wirelessly by identifying the receiver based on IR Sensors. Even Mobiles can also be charged. Robots are controlled Mobile. Charging battery using solar panel which is installed on the vehicle which is moved in and around the city and, the power is transferred through transmitter coil, with the help of receiver coil the power is received and regulated to obtain a pure dc with which we can charge our electric vehicle while charge needed vehicles.

DOMAIN: Wireless Power (WPT), Renewable Energy (Solar), Society

IEEE REFERENCE: IEEE TRANSACTION on Mobile computing, 2016

EMS 2009. Hand Speak : GESTURE CONTROL OF DRONE USING A MOTION CONTROLLER

ARCHITECTURE DIAGRAM:



DESCRIPTION: The **EXISTING SYSTEM** is only monitor hand gesture recognition through image processing tool. It is not giving efficient output. In **PROPOSED** System to design an Electronic Hand Glove which has MEMS sensors are fixed would help deaf and dumb people to communicate easily to the others through zigbee OTG communication. One Zigbee is connected with the MEMS Hardware and another with the Android Phone via OTG. The voice is played in mobile according to the hand gesture. In the **MODIFICATION**, Guardian can also communicate with the other deaf and dumb peoples vocally through the Android Application, so that the App recognizes their voice and converts into as a TEXT and it will be showed on the Display. We are implementing Bi Directional Communication between deaf & dumb people and normal people.

DOMAIN: Android, Wireless, Social Cause / Society Based

IEEE REFERENCE: IEEE Paper on IDRONE,2016

NEMS 4 . *Ration machine- AVM:* AUTOMATIC DISPENSING GROCERIES IN MONTHLY UPDATE

ARCHITECTURE DIAGRAM:

DESCRIPTION: In **EXISTING SYSTEM** manual operations are followed like bill payment and supply workers. By using this technology manpower is needed. In the **PROPOSED SYSTEM**, automatic system will be followed. This system provides high reliability and hence no possibility of mistakes. By using this technology manpower is reduced and then avoids smuggling. In our **MODIFICATION,** once the user will swipe the card the OTP is send to the user mobile and then the user enter the OTP on the keypad. After that the user can select our needed things based on authentication. After the verification, the machine will provide the groceries. The user will pay the amount automatically after the selection of materials. For based on online shopping, swipe the tag in mobile via OTG reader, after the verification process is registered and delivered through courier. The purpose of this system is the user will pay the amount automatically after the selection of materials.

DOMAIN: Wireless, Communication, NFC, Social Cause

IEEE REFERENCE: IEEE paper on IDSD, 2016

EMS 2010. Ticket Checking – IOT: LIFI BASED DEPLOYMENT OF MOBILITY SCANNING WITH ALERT, AUTO MISBEHAVIOR IDENTIFICATION, PENALTY & ANDROID TICKET BOOKING

ARCHITECTURE DIAGRAM:

DESCRIPTION: In the **EXISTING SYSTEM**, indoor localization, indoor navigation still appears to be a challenging issue. On one hand, wireless signal like Wi-Fi and GSM, the most exploited source for inferring location may not be suitable for navigation purposes. In the **PROPOSED SYSTEM,** Advances in phone technology and new style of computing paradigm i.e., mobile computing permits real time acquisition, processing, and tracking of activities in smart home. In the **MODIFICATION PROCESS,** android application is developed and deployed in every user. User will book the ticket for the destination and transaction id is generated for it via citizenship card. WiFi Hardware is attached at every station & in mobiles. User's mobility is tracked completely. Once user reaches the destination, a Normal / Voice alert is provided. User can terminated the travel or continue the travel. If user is continuing the travel then amount is subtracted from the account. If the travel is continued without payment then double the times charges is reduced. Auto SMS alert to the ticket checker in case of travel by a passenger without ticket. Emergency health support is also provided to the station through the Application.

DOMAIN: IOT, Android, Wireless, Society / Social Cause

IEEE REFERENCE: IEEE Paper on CCNC, 2016

EMS 2011. Multimode Children Tracking – IOT : BLUETOOTH, GPS & SOCIAL NETWORK BASED DYNAMIC PARENTAL CHILDREN TRACKING WITH ALERT NOTIFICATION – ANDROID & IOT

ARCHITECTURE DIAGRAM:

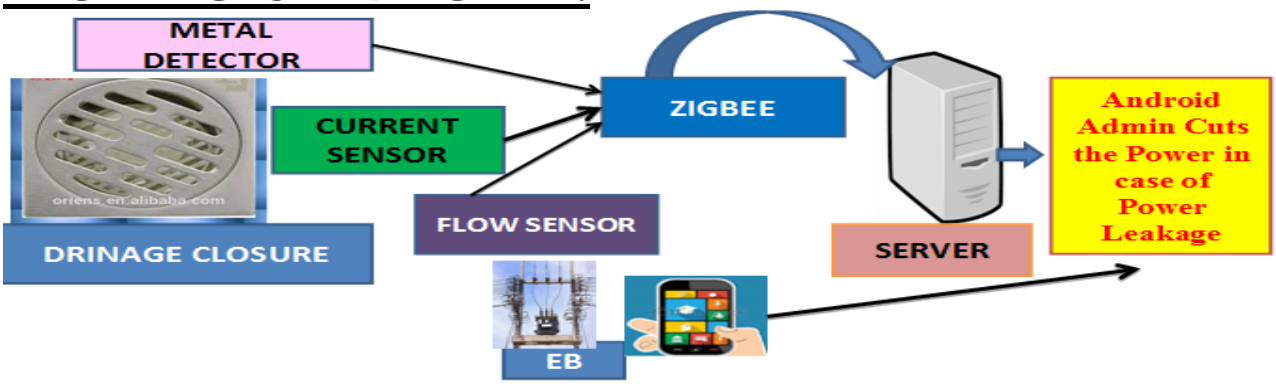
DESCRIPTION: In the **EXISTING SYSTEM**, to identify the Dementia Patients is really very tough. We could not able to monitor them all time. In the **PROPOSED SYSTEM,** Bluetooth Device is connected with the device at all time while discovering neighbor. The **MODIFICATION** part is our implementation. We deploy an Application to track the children. 1 Zigbee device is connected with the android (Parent) and another is attached with the child. Parent can track the child continuously; if child is out the Parent's range then notification is made to the parents automatically. Patient's can share the device ID to the Social Networks. In & around people can also track the child if found in between. We implement Cloud Computing in this project. Once child is identified immediately location details are shared to the parents so that child is identified easily without mind boggling.

DOMAIN : IOT, Android, Wireless & Mobile computing

IEEE REFERENCE: IEEE TRANSACTIONS on **ITVT, 2016**

EMS 2012. Drain Verify – IOT: INTEGRATIVE DETECTION OF OPEN DRAINAGE, OVER FLOW AND CURRENT LEAKAGE AND CONTROL SYSTEM USING ANDROID & IOT

ARCHITECTURE DIAGRAM:



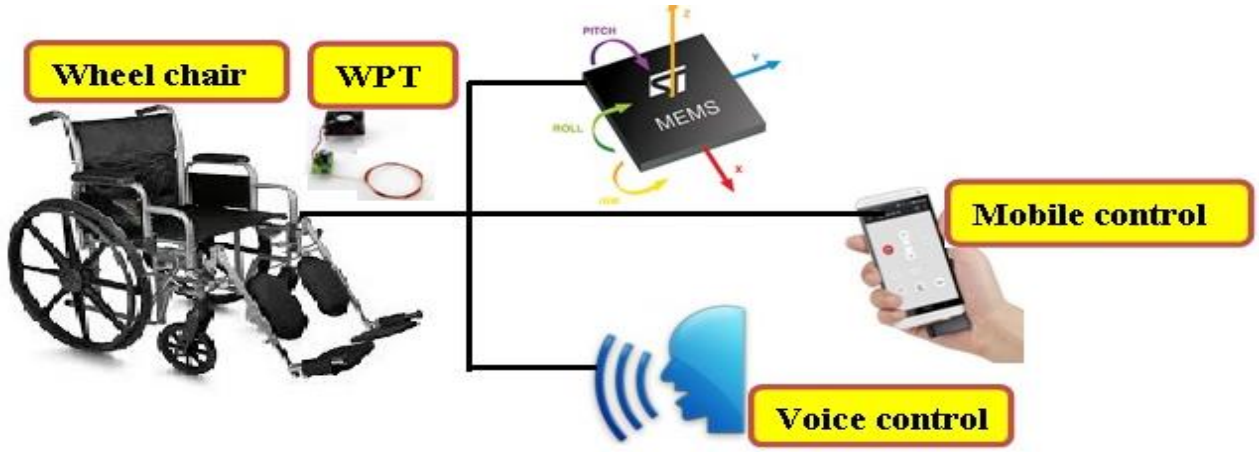
DESCRIPTION: In the **EXISTING SYSTEM**, intimate the overflow of drainage disconnected electrical line fall in rainy season, dustbin full is not done immediately. In **PROPOSED SYSTEM** overflow electrical transformers high and low voltage and current analysis. In **MODIFICATION** concept is designed to monitor the sewage system in roads during rainy seasons to protect people from falling into the open drainage, metal detector is used to monitor lid opening or closing. Float sensor monitor the over flow of sewage water. Current and Voltage sensor is measured high and low voltage of transformer and also detects the disconnection in the electrical lines. With this devices alarm is created to aware public. The ZigBee module in the lamp post is used to transfer the information to the central controller fixed in the area transformer to intimate EB. In addition to this, Drainage garbage full notification also intimated to corporation through ultrasonic sensor.

DOMAIN: IOT, Automation, Wireless, Society / Social Cause

IEEE REFERENCE: IEEE Paper on ISGCAC, 2016

NEMS 5. Hand Drive: IMPLEMENTATION OF WHEEL CHAIR / APPLIANCES CONTROL SYSTEM USING MEMS FOR PHYSICALLY CHALLENGED PEOPLE

ARCHITECTURE DIAGRAM



DESCRIPTION: In the **EXISTING SYSTEM**, every physically challenged person depending on the normal persons. In the **PROPOSED SYSTEM**, the Wheel-Chair is controlled to Accident prevention and fall detection. The **MODIFICATION** part is our implementation is, ultrasonic sensor, heart beat sensor and MEMS sensors are connected. MEMS sensor finds the tilt and makes use of the accelerometer to change the direction of the wheel chair depending on tilt. For example if the tilt is to the right side then the wheel chair moves in right direction or if the tilt is to the left side then the wheel chair moves in left direction. By using this sensors the physically challenged persons to control the obstacles, fall detection and health checkup. Then this system is followed mobile control and voice control. This concept is proposed to improve the life of the disabled persons. Wireless Power transfer system is used to charge the wheel chair.

DOMAIN: **Robotics, Mechanical, Android, Automation, Society Based**

IEEE REFERENCE: **IEEE Paper on ICCE, 2016**

NEMS 6. Finger Print Poll: RFID AND FINGER PRINT BASED USER RECOGNITION SYSTEM FOR SECURED VOTING IN AVOIDANCE OF RECASTING & PROXY CASTING MICROCONTROLLER

ARCHITECTURE DIAGRAM:

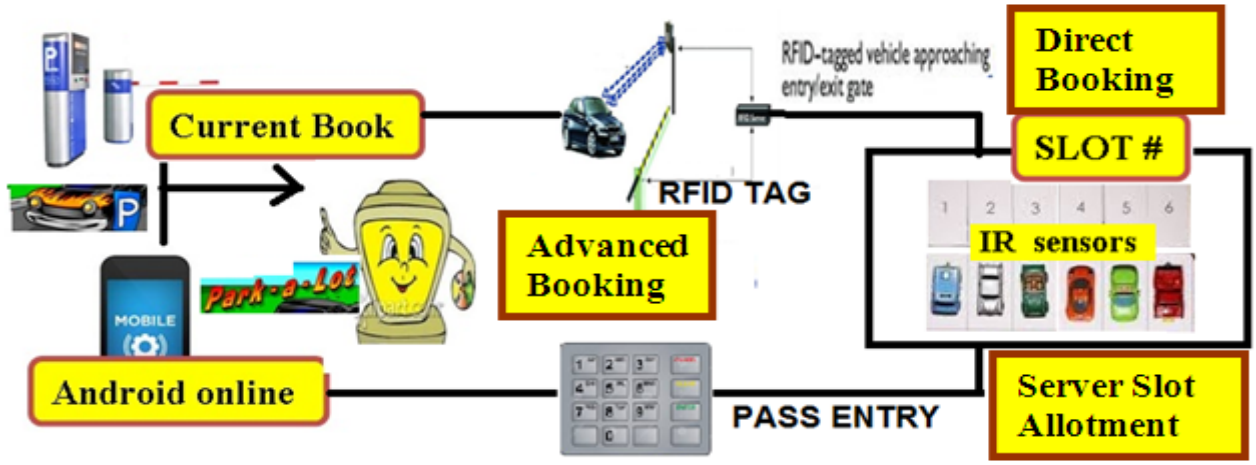
DESCTIPTION: In the **EXISTING SYSTEM**, Voters are Verified using Voter's ID only. Recasting & Proxy Voting is unfortunately irreversible in Real-time. In the **PROPOSED SYSTEM**, RFID is used instead of manual Voter's ID and Results are announced as per schedules. In Our **MODIFICATION**, both RFID & Finger Print is used for User Authentication and register purpose. The people vote is achieved and then the vote is registered. Then the registered vote automatically updated in website through IOT. This process is fully done by a microcontroller. Results are announced on the day of Election itself.

DOMAIN: Security, Society / Social Cause

IEEE REFERENCE: IEEE Paper on IAC, 2016

EMS 2013. Vehicle Park – IOT : SMART PARKING SYSTEM FOR INTERNET OF THINGS

ARCHITECTURE DIAGRAM:



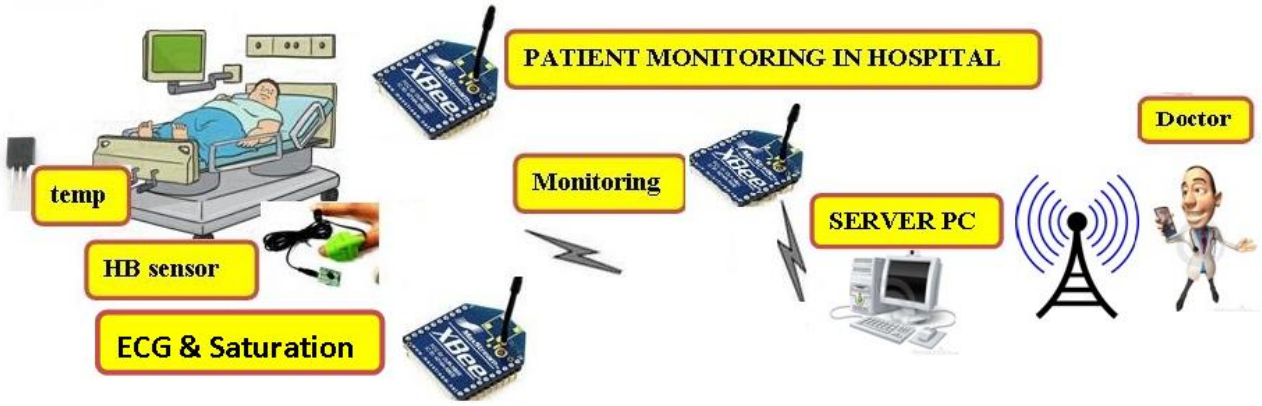
DESCRIPTION: In the **EXISTING SYSTEM**, Parking is the major Problem nowadays. Many of us get disturbed easily of not parking the Vehicles. In the **PROPOSED SYSTEM**, user can park the Vehicle through Android Application in advance itself. Android user can choose the Route based on the Parking Space availability. On the Embedded Hardware end, an Intelligent Parking is implemented based on Slot Allotment. In our **MODIFICATION**, Android user can book the Parking Slot in two Modes like Advance & Current Booking. User can choose the Destination and the Route so that user can park the Vehicle very easily. User can pay the Money through Android Application itself. Embedded Hardware is implemented for Direct Parking. Server will monitor the Slot Allotment dynamically.

DOMAIN: IOT, Android, Wireless, Society / Social Cause

IEEE REFERENCE: IEEE Paper on ICCE, 2016

EMS 2014. Hospital Monitor: INTEGRATED PATIENT & HOSPITAL MONITORING WITH EFFECTIVE SUPPORT SYSTEM USING ANDROID & IOT

ARCHITECTURE DIAGRAM:



DESCRIPTION: In the **EXISTING SYSTEM**, the monitoring of patients is carried in particular time 24 hours monitoring is not possible. In the **PROPOSED SYSTEM**, monitors the patient vitals such as temperature, heart rate. The **MODIFICATION** part is our implementation is, ECG, Temperature, Heart Beat, IR sensors with specified saturation point are connected along with Zigbee to the Patient. Another Zigbee is attached with the Server for further analysis. If health related issues like above or below crossing the saturation point then the request is forwarded to the server. Then server is allotting the doctor through notification via WIFI and previous medical prescription will be loaded in doctors mobile. Medical values, Room No. of the Patient are shown in APP itself. So, further treatment of the patients will be followed.

DOMAIN: IOT, Biomedical, Wireless, Society / Social Cause

IEEE REFERENCE: IEEE Paper on ISJ, 2016

EMS 2015. WiFi Track - IOT: DYNAMIC PATH GUIDANCE – INDOOR & OUTDOOR USING WIFI COMMUNICATION USING ANDROID & IOT

ARCHITECTURE DIAGRAM:

DESCRIPTION: In the **EXISTING SYSTEM**, there are GPS based tracking is very common in the entire smart phone, but in door navigation is the most difficult opportunity and because of the widespread use of mobile devices and location-based applications, indoor localization is becoming a top research priority. In the **PROPOSED SYSTEM**, we are integrating both Indoor & Outdoor location based tracking basis on monitoring the WiFi connectivity. If WiFi is connected then tracking will happen as Indoor and user is out of the WiFi then GPS is used for external tracking. The **MODIFICATION** part of the project is to include Voice based input for blind people. The same application can be used for both normal & Blind people for effective navigation.

DOMAIN: IOT, Wireless, Android, OTG, Social / Society based

IEEE REFERENCE: IEEE TRANSACTION on Mobile Computing, 2016

EMS 2016. Check Street Light – IOT: DYNAMIC CONTROL OF STREET LIGHTS WITH HUMAN MOBILITY, ILLUMINATION, CURRENT SENSING WITH DUSTBIN REPORTING SYSTEM

ARCHITECTURE DIAGRAM:

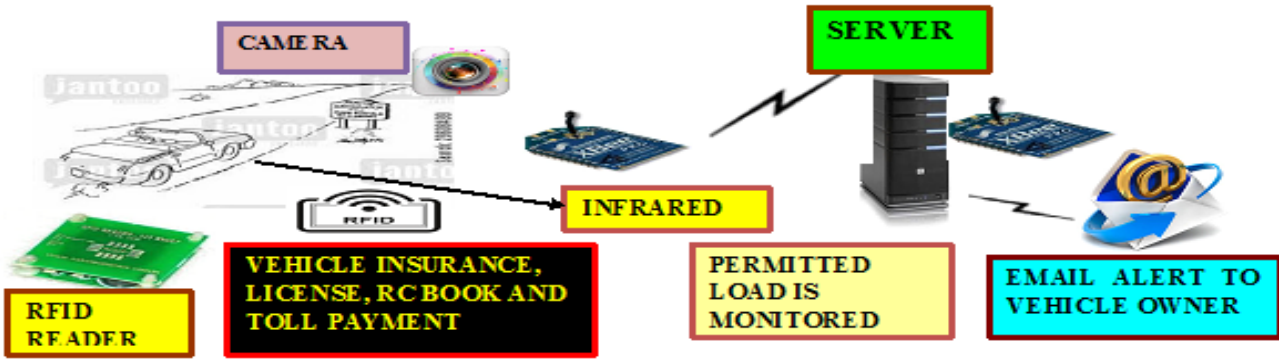
DESCRIPTION: In the **EXISTING SYSTEM**, The higher amount of energy consumption associated with street lights is mainly contributed by the inefficient system, in which luminaries require high amount of energy. In the **PROPOSED SYSTEM**, Intelligent street lights have different sensors to monitor and control luminaries. It includes temperature, luminosity and power metering sensors to control the dimming level and to check the status. These luminaries are networked together in a Zigbee mesh network. In the **MODIFICATION**, Cloud & IOT based setup is implemented. Sensors values are measured by the remote server called Cloud via Zigbee based communication. It is also deducting Power theft happening. We also include Dustbin notification also along with this street light concept. Automatic notification is communicated to the corporation in case full of Dustbin. Street light illumination is adjusted or increased whenever people come closer to the lights.

DOMAIN: Renewable Energy, Solar Panel, WPT, Society / Social Cause

IEEE REFERENCE: IEEE Paper on IJSEN, 2016

EMS 2017. Vehicle Check - IOT: AUTOMATIC TOLL PAYMENT, LOAD & VEHICLE INFO MONITORING USING IOT & MAILING SYSTEM

ARCHITECTURE DIAGRAM

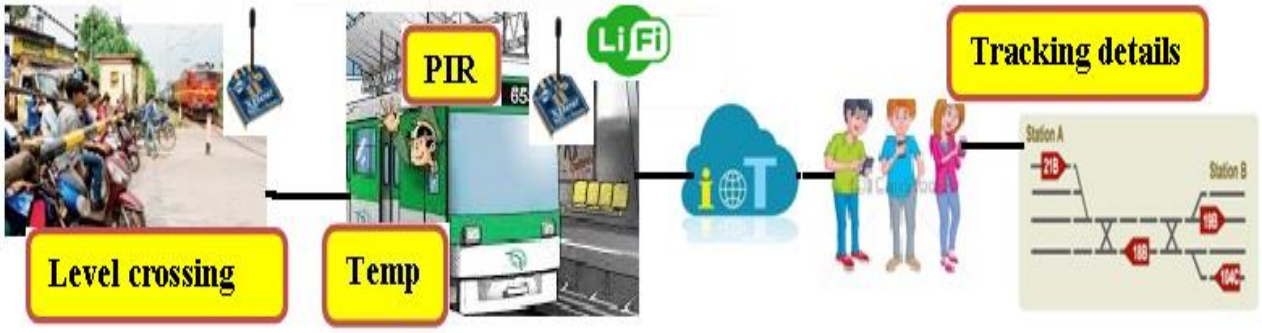


DESCRIPTION: In the **EXISTING SYSTEM**, manual paper work regarding the overall details. In the **PROPOSED SYSTEM**, implementing data collection and images are displayed. The **MODIFICATION** part is our implementation, RFID tags are attached with every vehicle. Vehicle's Insurance, License & RC book details are transmitted via RFID card. This system will automatically identify the vehicles without proper Papers. Alcohol sensor is attached with the vehicle to automatically identify the drunken driver. IR sensor & Load cell is attached with the Toll gate so that Vehicle's load is monitored and corresponding fair is charged. Permitted load is only allowed, if over load complaint is registered. The camera captures the snap of the vehicle and transferred to the consigner via e mail.

DOMAIN: IOT, Embedded, Cloud, Society / Social Cause

IEEE REFERENCE: IEEE Paper on ICBD&SC, 2016

NEMS 7. Train Track : INTEGRATION OF PIR BASED DEVICE CONTROL, SPEED CONTROL & TRAIN TRACKING SYSTEM ARCHITECTURE DIAGRAM:



DESCRIPTION: In the **EXISTING SYSTEM**, oral communication through telephonic conversation is to communicate the train arrival. In the **PROPOSED SYSTEM,** a new train monitoring capability is implemented based on GSM to determine the positions and velocities of trains. In our **MODIFICATION** is people communicate the train arrival to the next Station using LIFI, ZIGBEE. By using this system people identify the next Station about the train's Arrival by the current station through mobile using IOT. MATLAB with ZIGBEE transmitter is used in level crossing to avoid accidents. Temperature Sensor is used to measure the temperature of the Wheel, so that the speed is controlled. Speed of the train is monitored by temperature sensor. Appliances in the Compartments are Switched ON based on the PIR sensor motion detection.

DOMAIN: Raspberry Pi, Linux Hardware, LiFi, IOT, MATLAB, Control System

IEEE REFERENCE: IEEE Paper on IRC, 2016

NEMS 8. Hospital Admission system: A NOVEL APPROACH TOWARDS DESIGNING A WEARABLE SMART HEALTH MONITORING SYSTEM MEASURING THE VITAL PARAMETERS

ARCHITECTURE DIAGRAM:

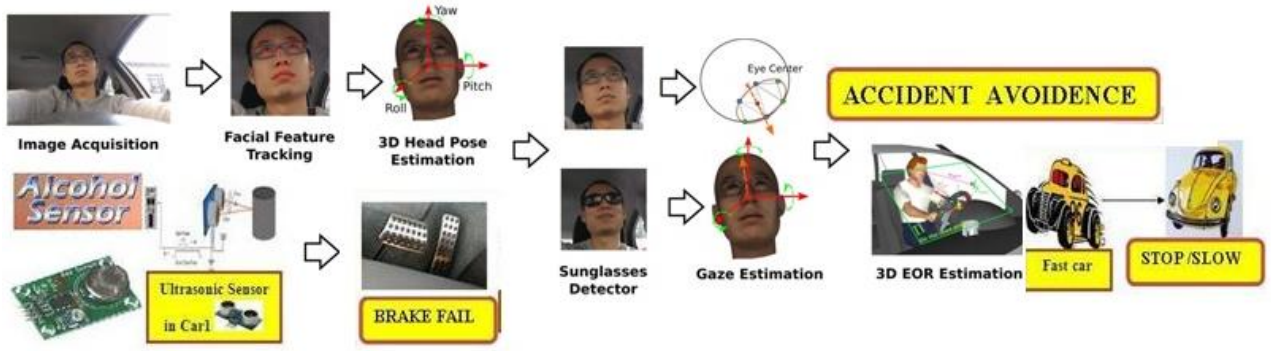
DESCRIPTION: The **EXISTING SYSTEM,** hospital admission system is a long process. By using this system patients are checked manually. The **PROPOSED SYSTEM,** wearable health monitoring system is implemented. In our **MODIFICATION** part is**,** we implement intelligent hospital monitoring machine. This system includes ECG sensor, Heart beat sensor, Temperature sensor and zigbee. The patients will swipe the card and then the machine automatically scanned the patients. After the detection of any of the health abnormalities of the patients are received the notification message. This message includes specified doctor, date and time. Incase any of the emergency period the alert message is sent to the respective care giver through zigbee. The advantages of this system are reduced the man power and immediate analysis.

DOMAIN : Biomedical, Wireless, Society / Social Cause

IEEE REFERENCE: IEEE Paper on IEECS, 2016

EMS 2018. Drowsy Detect – IOT : PROACTIVE ACCIDENT AVOIDANCE USING DETECTION OF DROWSINESS, ALCOHOL CONSUMPTION & OVER SPEED AND THEFT VEHICLE DETECTION IN SIGNALS USING IOT

ARCHITECTURE DIAGRAM:



DESCTIPTION: In the **EXISTING SYSTEM**, Lots of Accidents are happening due to the Drivers mistake. There is no Preventive Measures has been implemented so far. The **PROPOSED** System of the Project is to avoid Accidents by Detecting Driver Drowsiness, Distraction and Yawning through Matlab via Image Processing. Web Camera is placed in the Vehicle in Real-time but as per our Implementation, Web Camera is connected to the PC used to detect the Driver's Eye & Mouth Status for Drowsiness & Yawning. As per the Procedure Image is Captured then Face is Detected. Facial Features are extracted toward Eye, Mouth and face. Eye Winking & Yawning is Detected and used for controlling the Vehicle via Serial Communication. In the **MODIFICATION** of the Project, Alcohol, ultrasonic and brake Sensor are additionally used for avoiding the accident.

DOMAIN: MATLAB, IOT, Sensors, Control Systems

IEEE REFERENCE: IEEE TRANSACTIONS on IMS, 2016

EMS 2019. *Mine Safe - WSN* : LIGHTWEIGHT MASHUP MIDDLEWARE FOR COAL MINE SAFETY MONITORING AND CONTROL AUTOMATION

ARCHITECTURE DIAGRAM:

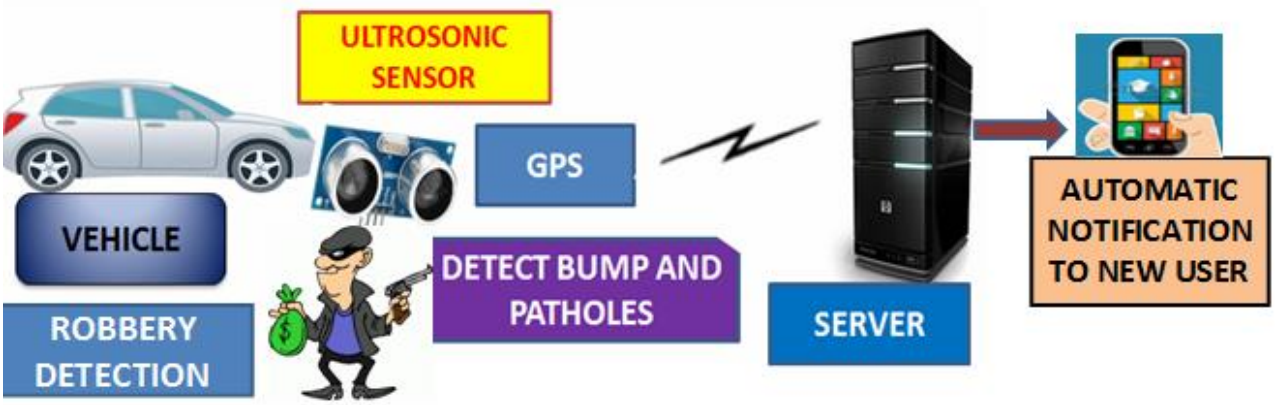
DESCRIPTION: In **EXISTING SYSTEM** specifically mines are inherently very complex systems to be monitored and controlled. Frequent accidents have caused serious causalities and huge economic losses. In the **PROPOSED SYSTEM**, the cluster tree based WSN is deployed . A centralized control system for monitoring, reporting and preventing workplace risks has been developed. In our **MODIFICATION**, A wearable device will be fixed with the body of the workers. The purpose of this device is to monitor the workers wearing the safety devices .The health condition of the workers is also monitored using temperature, Heartbeat sensor. The mining environment is monitored using gas and water leakage sensor. Slope changes are detected automatically by flux sensor. The values from the sensor nodes will be transmitted to the base station control room node.

DOMAIN: Raspberry Pi, Linux, Wireless, Communication, Fiber optics

IEEE REFERENCE: IEEE TRANSACTION on ITASE, 2016

EMS 2020. Potholes & Robbery Detect - IOT: AUTOMATIC POTHOLES, BUMPS AND ROBBERY DETECTION USING ANDROID, GPS & IOT

ARCHITECTURE DIAGRAM:



DESCRIPTION: In the **EXISTING SYSTEM**, It is very difficult to identify the street Bumps & Potholes in order to avoid street accidents. In the **PROPOSED SYSTEM**, the ideology is to identify the street Bumps via an Android application development. This application will identify the MEMS accelerometer immediate rotation and there by this will report the server along with the corresponding location. In the **MODIFICATION** part, we detect Potholes & Bumps based on Ultrasonic sensor. This system will identify the Potholes & Bumps and transmit the GPS values to the server. Apart from this concept we are also adding robbery detection with respect to a specific location. This information is also updated in the server. New users could verify the route and then can plan to travel.

DOMAIN: IOT, Android, Society / Social cause

IEEE REFERENCE: IEEE Paper on IEEE Access, 2016

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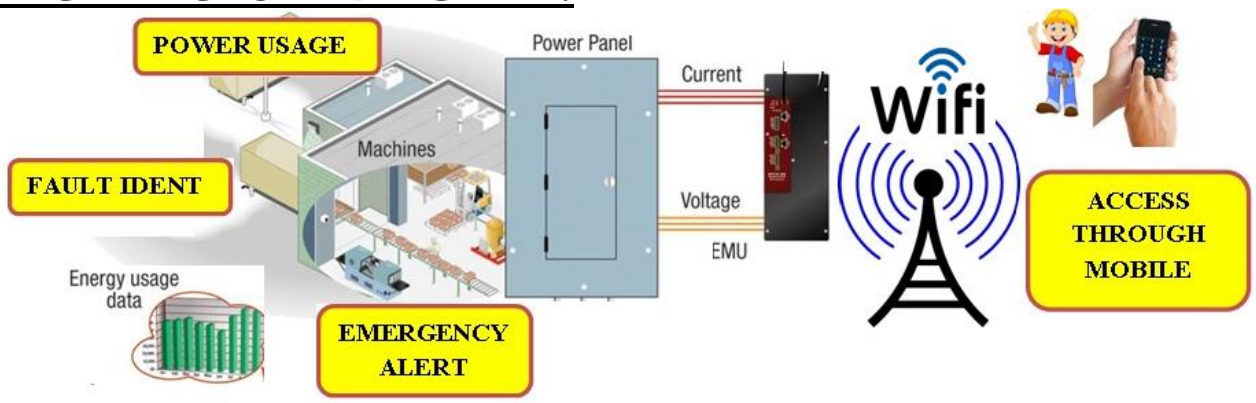
NEMS 9. Industry Safety : INTEGRATION OF POWER MANAGEMENT CONTROL SYSTEM, STATUS MONITORING & EMERGENCY SUPPORT SYSTEM USING ANDROID

ARCHITECTURE DIAGRAM:



DESCRIPTION: In **EXISTING SYSTEM,** device control is implemented through GSM communication. The **PROPOSED** System of the Project is to measure the Power Consumption of Every individual Device using power meter and controlled through Wireless. As the **MODIFICATION** part, we are including industrial smart plug systems in which emergency switch control, power measurement of the device, fault identification, accident and finally controlling the device. Wi-Fi communication is formed a communication hub. Data Logging is also implemented. In Wi-Fi, android app is developed for data logging Communication.

DOMAIN : WiFi, Android, Wireless, Electrical, Instrumentation

IEEE REFERENCE: IEEE Paper on CIEC, 2016

EMS 2021. Copy me Robot-Open CV : AUTOMATIC CONTROL OF 3-AXIS ROBOT USING HAND MOVING PATTERN USING OPEN CV

ARCHITECTURE DIAGRAM:

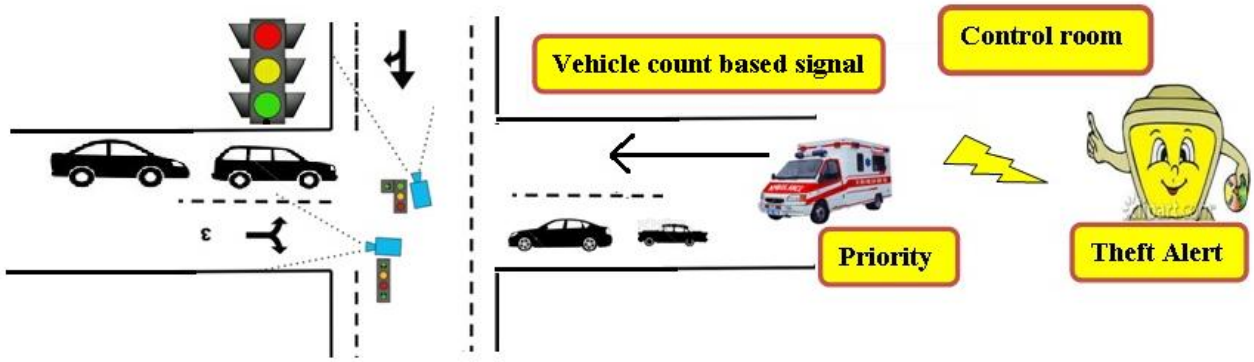
DESCRIPTION: In the **EXISTING SYSTEM**, Robots are controlled manually or through RF Communication. In the **PROSPSED SYSTEM,** main Objective of the Project is to control the Robot through color sensing Recognition. Open CV Software is used for User color Recognition via Web camera. Data is collected to extract the Feature of Gestures from the User. Clustering is achieved for color sensing. Once the color is recognized corresponding Data is communicated with the Robot via zigbee Communication. In **MODIFICATION PART,** of the Project is building a 3 Axis Robot where by Robot action is controlled using color sense and Recognition. Controls are Left, Right, Forward, Backward, Rotate Clockwise, Rotate Anti Clockwise, Arm Up, Arm Down, Grabber open & Grabber Close.

DOMAIN: Robotics, Image Processing, Open CV, Mechanical

IEEE REFERENCE: IEEE Paper on IHPR, 2016

EMS 2022. Traffic control: EFFICEIENT ALGORITHM FOR DETECTING TRAFFIC CONGETION AND A FRAMEWORK FOR SMART TRAFFIC CONTROL SYSTEM

ARCHITECTURE DIAGRAM:



DESCRIPTION: In **EXISTING SYSTEM,** traffic signal control is basically worked on time and manual process. The **PROPOSED SYSTEM,** intelligent Traffic Signal Control System based on vehicle density. In the **MODIFICATION PART,** IRDA TX is provided to each and every vehicle, IRDA Receiver is placed in the signal. It will read the vehicle count based on this to allow the vehicle. If an ambulance arrives, it automatically detects it and allows the ambulance to pass by. A communication is established through ZigBee signal will stop the entire vehicle while allowing ambulance. If some theft vehicle is found by the transmitter at the signal immediately transfers the location of the vehicle to the server. The server will send the traffic information to the nearest mobile via OTG ZigBee communication.

DOMAIN: Automobile, Wireless, OTG, Social and Society based

IEEE REFERENCE: IEEE TRANSACTION on ITS, 2016

EMS 2023. Calorie Calculator – IOT: ANDROID & IOT BASED CALORIE CALCULATOR USING MEMS, VITAL PARAMETER MONITORING AND AUTOMATIC REMAINDER SYSTEM

ARCHITECTURE DIAGRAM

DESCRIPTION: In the **EXISTING SYSTEM** there is no system for analyze step count and medical fitness analysis together. In **PROPOSED SYSTEM,** is trying to calculate the temperature and heartbeat measurement to be taken for mood recognition. In our **MODIFICATION** part, we include MEMS based Hardware for measuring step count and calorie burnt in the human body and further blood pressure is measured and updated status to be stored in cloud server. Remainder notification is also included to alert the people to remind all, similarly which location to buy the material or shop information using Bluetooth.

DOMAIN: **IOT, Biomedical, Android, Social Cause / Society Based**

IEEE REFERENCE: **IEEE Paper** on **IWSSAS, 2016**

EMS 2024. Open me Safely : SMART VEHICLE SECURITY SYSTEM FOR DEFENDING AGAINST COLLABRATIVE ATTACKS BY MALWARE

ARCHITECTURE DIAGRAM:

DESCRIPTION : In the **EXISTING SYSTEM**, alarm system are used when touched. Security systems are inevitably part of today's life. Here in the proposed work a real time vehicle security system and malware detection system developed and implemented. The proposed system will ensure that the authorized person will be able to activate and use the car and thus ensuring that unauthorized access is prevented. In our **MODIFICATION**, we are implementing webcam based face recognition using MATLAB to open the car door if not matched while stealing the car or while breaking the lock vibration sensors detects the vibration, immediate photo taken and stored in system and an alert message is send to user through GSM communication.

DOMAIN: Raspberry Pi, Linux Hardware, Wireless, Society Based

IEEE REFERENCE: IEEE Paper on ICBS, 2016

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EMS 2025. Agri 3rd Eye : AGRISYS: A SMART AND UBIQUITOUS CONTROLLED – ENVIRONMENT AGRICULTURE SYSTEM ARCHITECTURE DIAGRAM

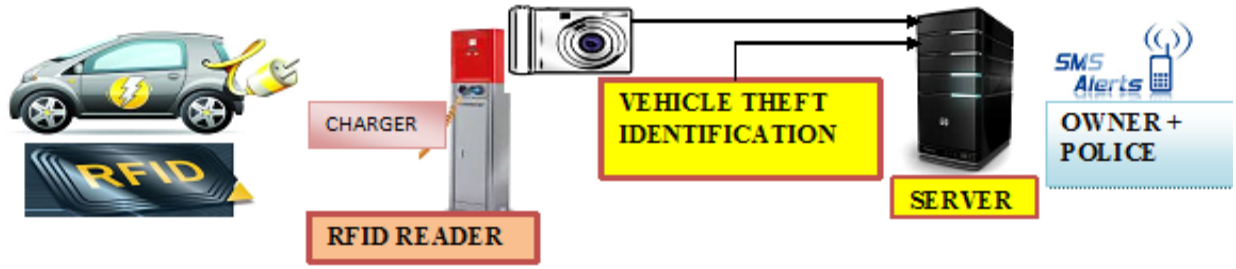
DESCRIPTION: In the **EXISTING SYSTEM,** manual irrigation technique is followed by farmers. There is no automatic system is developed yet. In **PROPOSED SYSTEM,** The images of plant leaves are captured by webcam. MATLAB image processing is developed to get exact status of plant either wet or dry and make a soil test for moisture. In **MODIFICATION** part, the main objective of our work is to maximize proper use of water, to minimize the cost of labor and to provide security. A wireless system is designed to provide information to the owner of the land. To ensure the security of the pumps and other equipments, there is an alert and lock system maintained & controlled only by the authorized persons. Vibration Sensor is attached to Alert in case of any Lock Breaking Event.

DOMAIN: MATLAB, Agriculture, Wireless, Society / Social Cause

IEEE REFERENCE: IEEE Paper on ICBS, 2016

EMS 2026. Hold The Thief: WIRELESS POWER TRANSMISSION & RFID BASED FLEXIBLE CHARGING AND AUTOMATIC DETECTION OF THEFT VEHICLE

ARCHITECTURE DIAGRAM:



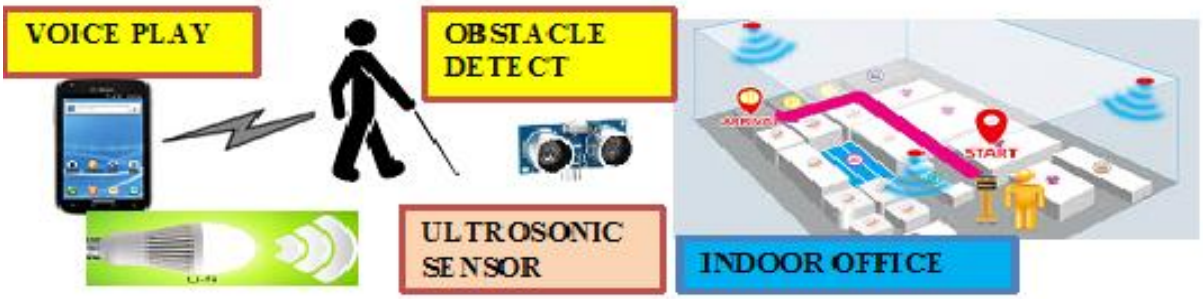
DESCRIPTION: In the **EXISTING SYSTEM**, we find that if the constraints of node speed and battery capacity are considered, the continuous operation of nodes may never be guaranteed. In the **PROPOSED SYSTEM**, The goal of the work is to make nodes energy provisioned, a vehicle can also move to visiting V2G network for charging /discharging its battery any time at any charging station. A certificate authority also verifies the vehicle's identity for security purpose. The **MODIFICATION** part is our Implementation. We deploy Wireless Power Transmission in Electric Bunks for charging the Electric Vehicles (Like Petrol Bunks). We also deploy Android Application for Reporting Vehicle Theft Complaint. Camera is installed in the charging bunk's system. Once vehicle theft is detected camera is initiated and email alert is sent to the vehicle owner and police. GPS location is sent to both of them. RFID will transmit the Vehicle Number. Server will compare Theft Complaint Vehicle Number with all the Charging Vehicles. If the numbers are matched then automatically location of Electric Bunk is sent as SMS to the Police.

DOMAIN: Electrical, IOT, WPT, Android, Society / Social Cause

IEEE REFERENCE: IEEE TRANSACTIONS on Information Forensics & Security, 2016

EMS 2027. Blind Walk: INTERACTIVE VOICE & IOT BASED ROUTE NAVIGATION SYSTEM FOR VISUALLY IMPAIRED PEOPLE USING LIFI

ARCHITECTURE DIAGRAM:



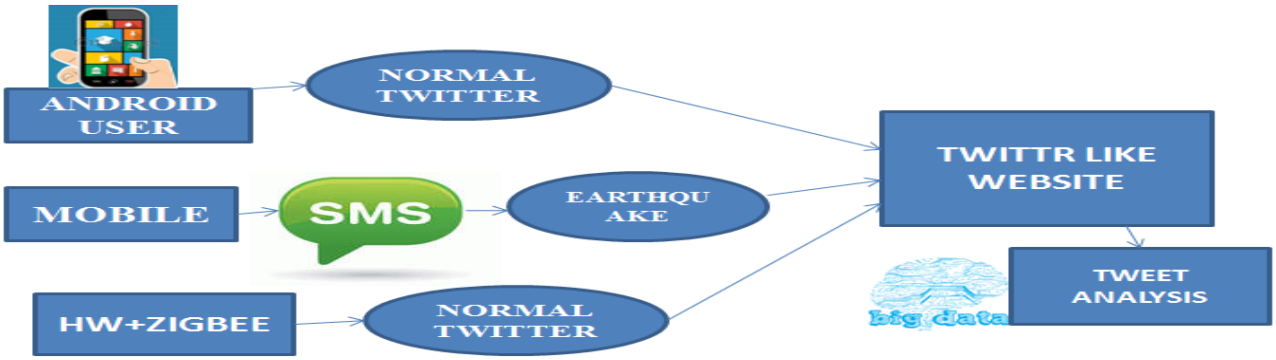
DESCRIPTION: In **EXISTING SYSTEM** to guide the visually impaired people they need neighbors help for navigation and guidance. In **PROPOSED SYSTEM**, LED is deployed in buildings. In this method, colored LEDs are used to help the image sensor to distinguish between different light sources. Zigbee technology can be combined with VLC to realize long distance positioning. **MODIFICATION PROCESS**, The blind person module consists of a mobile connected through LiFi, a vibrator, and an ultrasonic sensor. Ultrasonic sensor will monitor obstacles in the path. LiFi is used to give the zone alert to the blind people and particularly to give the voice guidance of the path. Vibrator is used for sudden alert to the people.

DOMAIN: Wireless, Android, OTG, Social / Society based

IEEE REFERENCE: IEEE Paper on ICCE, 2016.

EMS 2028. Emergency Alert – IOT: MULTI CHANNEL EMERGENCY DISASTER DATA EXTRACTION FROM SOCIAL FORMS USING BIG DATA & IOT BASED ANALYSIS

ARCHITECTURE DIAGRAM:



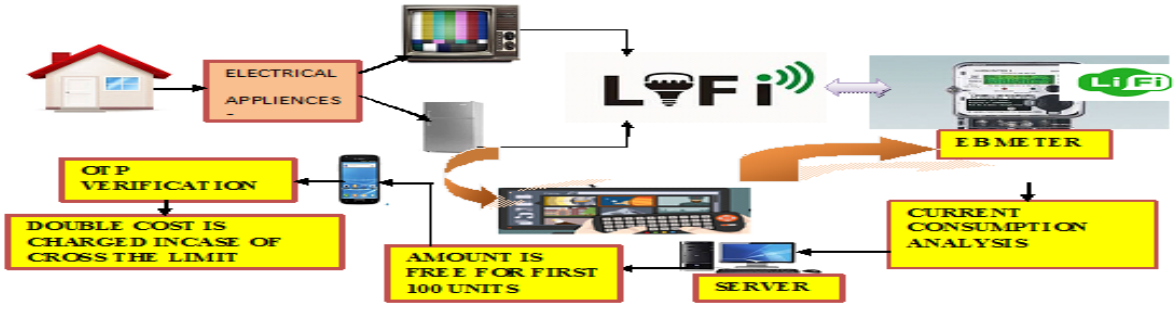
DESCRIPTION: In the **EXISTING SYSTEM**, the free format of social media that allows anyone and everyone to post just about anything make it difficult to find relevant information The other issues are misinformation and rumors spread centering a disaster, collection of accurate information. In the **PROPOSED SYSTEM**, SMS alert is sent to the respective users who belong to a community / group. After they accept for the communication in the social networks then they can post their information and finally published. In the **MODIFICATION**, apart from the proposed system, Android based SMS based social network communication is initiated. Android based normal internet social network communication is also initialed to obtain the overall opinion about a particular issue. We also deploy a Zigbee based IOT communication establishment, applicable when mobile network is not present. We are also integrating Big Data in this application also. Big data is used for data analysis about the public opinion.

DOMAIN : IOT, Big Data, Data Mining, Embedded, Android, Cloud

IEEE REFERENCE: IEEE Paper on CASPSC, 2016

EMS 2029. EB Check: SYSTEMATIC ROLE CHECK WITH HUMANLESS AUTO METER READING USING LIFI

ARCHITECTURE DIAGRAM:



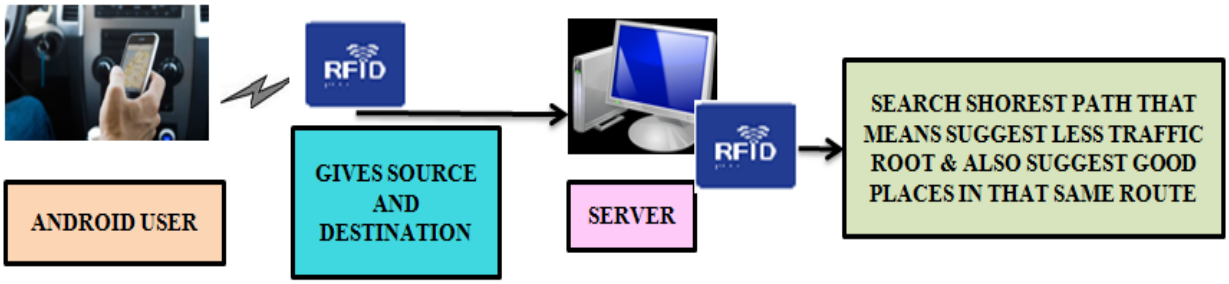
DESCRIPTION: In the **EXISTING SYSTEM**, Consequently, the insider attacker can get access to modify meter readings and can view private information of the customer at the customer endpoint. Similarly, insider attacker may be able to access the electricity price information, network infrastructure information, and other information communicated by protocols. Smart Meters plays a vital role in measuring energy consumed by every user with device details. In the **PROPOSED SYSTEM** we first identify role of user and verify identify of each user with signature verification. Then OTP sent to user mobile phone for verify the actual user. Finally a shared secret key is generated between user and device for secure communication. After authentication, user view and pay their EB bills through remotely. In the **MODIFICATION** part of the Project EB Meter is interfaced and the Meter Data is transmitted EB Server through LIFI Technology. Current Sensor is connected to the device to verify the switching state of the device. Android Application is deployed to the customer for Payment System. Server calculates the cost of remaining units based on government scheme free for first 100 units. Double Cost is charged in case of crossing Permitted maximum utility of Current.

DOMAIN: IOT, Android, Cloud, Embedded, Security, Society / Social Cause

IEEE REFERENCE: IEEE TRANSACTION on Information Forensics and Security, 2016

EMS 2030. Short Route: TIME PREDICTION ANALYSIS BASED ON RFID TECHNOLOGY & ANDROID DEPLOYMENT WITH RECOMMENDATION SYSTEM

ARCHITECTURE DIAGRAM:



DESCRIPTION: In the **EXISTING SYSTEM**, automatic vehicle identification (AVI) systems like license plate recognition must wait until a vehicle is detected at the destination to calculate its travel time. There is no effective technology for estimating travel time in existing and time consuming process. In the **PROPOSED SYSTEM**, using Bluetooth in intelligent transportation systems to calculate travel time to perform traffic light management, suggest alternative routes to avoid work zones that the vehicle stays within range long enough. The **MODIFICATION** is our implementation. Our goal is to proactive traffic sensing on road. We deploy Android based Application to understand the estimated time required to reach the destination in all the available set of routes. So that user can easily identify the best route to reach the destination on time. User has to provide reason for travel, so that server can easily fetch the related places can be visited by the user in between this travel. Places Recommendation is purely based on the feedbacks posted by the previous users.

DOMAIN: Android, IOT, Embedded, Society / Social Cause, Cloud

IEEE REFERENCE: IEEE TRANSACTION ON Intelligent Transportation

EMS 2031. Product Tracking : RFID ENABLED PHYSICAL OBJECT TRACKING IN PROCESS FLOW BASED ON AN ENHANCED GRAPHICAL DEDUCTION MODELING METHOD

ARCHITECTURE DIAGRAM:

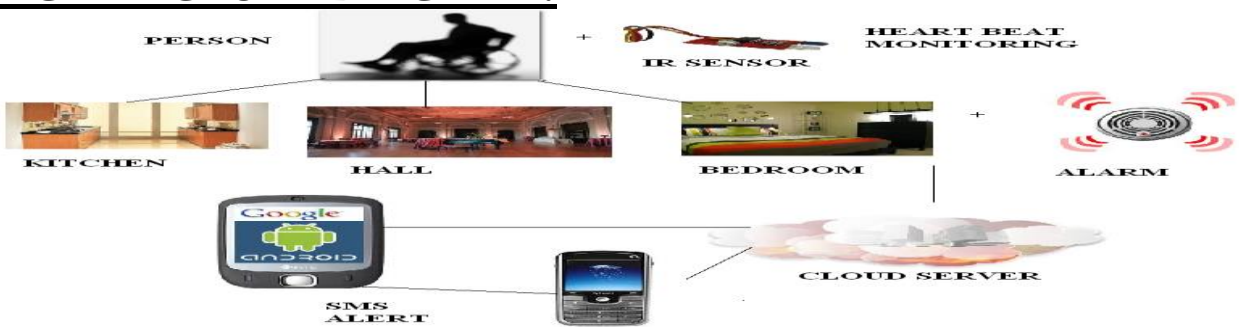
DESCTIPTION: In the **EXISTING SYSTEM** there is no system to track the product in indoor industrial unit.The **PROPOSED** System of the Project is to Product Progress from one Zone to another. **MODIFICATION** & Implementation Process of the Project is to build a Mechanical Set up of Rotary Belt. RFID is placed in Between, Products or Items are attached with the RFID Tags to Monitor the Movement of the Goods from one Point to another. We also implement Finger Print based Authentication, for the admin to Load the Goods as an Extra Feature from the base paper. Load is monitored via RFID.

DOMAIN: Mechanical, Industrial, Wireless

IEEE REFERENCE: IEEE TRANSACTIONS on M&C Systems,2016

EMS 2032. Mobile Patient's Track – IOT: APRIVACY PROTECTION FOR WIRELESS MEDICAL SENSOR DATA

ARCHITECTURE DIAGRAM:



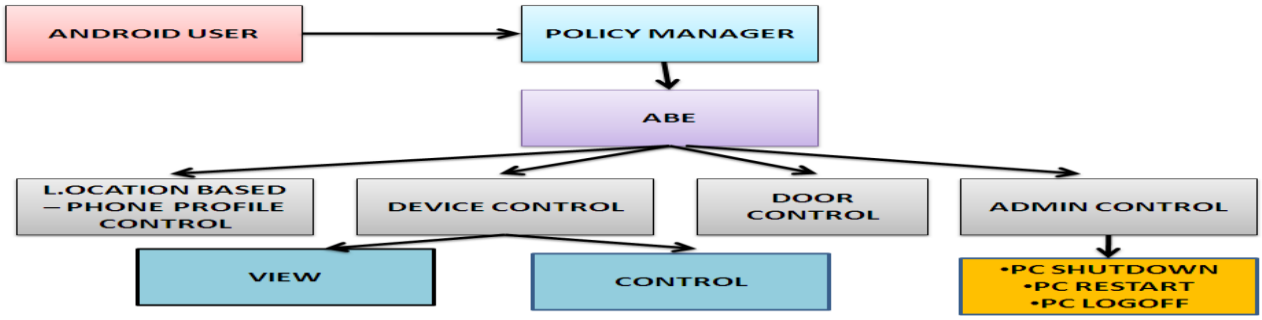
DESCRIPTION: In the **EXISTING SYSTEM,** there should be some Care Taker along with the Patient who personally monitors the Age Old Patients. In the **PROPOSED SYSTEM**, Smart home is regarded as an independent healthy living for elderly person. Advances in phone technology and new style of computing paradigm (i.e., cloud computing) permits real time acquisition, processing, and tracking of activities in smart home. In this paper, we develop android smart phone application to assists elderly people for independent living in their own homes. Smart phone application communicates with cloud through web server and assists the elderly person to complete their daily life activities. This is used to Track the Patient's Activity along with the Remainders of Medicines, Food and other Activities. **MODIFICATION** that we propose is to monitor the Heart Beat of the Patient to find the normal functionality of the Patient along with IR based Tracking Solution at every room.

DOMAIN: IOT, Android, Biomedical, Wireless, Society based

IEEE REFERENCE: IEEE Transaction on dependable and secure computing,2016

EMS 2033. Mobile Access Control – IOT: ANDROID POLICY BASED USER BEHAVIOUR MONITORING, CONTROL SYSTEM WITH LOCATION BASED DYNAMIC MODE CHANGING – IOT

ARCHITECTURE DIAGRAM:



DESCRIPTION: In the **EXISTING SYSTEM,** the majority of these resources can collect sensitive data and may expose users to security and privacy risks if application use them in appropriately and without the user's knowledge**.** And misuse of this data by malicious application may result in privacy breaches and sensitive data leakage In the **PROPOSED SYSTEM,** the android application provide the access permission manually and automatically based on the policy rights given by the mobile user based on the location. This Access control mechanism for context differentiates between closely located sub areas within the same location. In the **MODIFICATION PROCESS,** modification is our implementation. Android based application is deployed and access policy is determined based on their location. If user goes to conference hall their android phone automatically goes to the silent mode. User can control / view device options inside the premises. User can control door operations while exit. Authority person can shut down, restart, logoff any client's machine as we include ABE algorithm.

DOMAIN: Android, IOT, Cloud, Embedded, Mobile Computing

IEEE REFERENCE: IEEE Paper on REV, 2016

EMS 2034. Auto Patient Pick: MULTIPLE SENSORS INTEGRATION & AUTOMATIC AMBULANCE INTIATION USING EMBEDDED, IOT & ANDROID

ARCHITECTURE DIAGRAM:

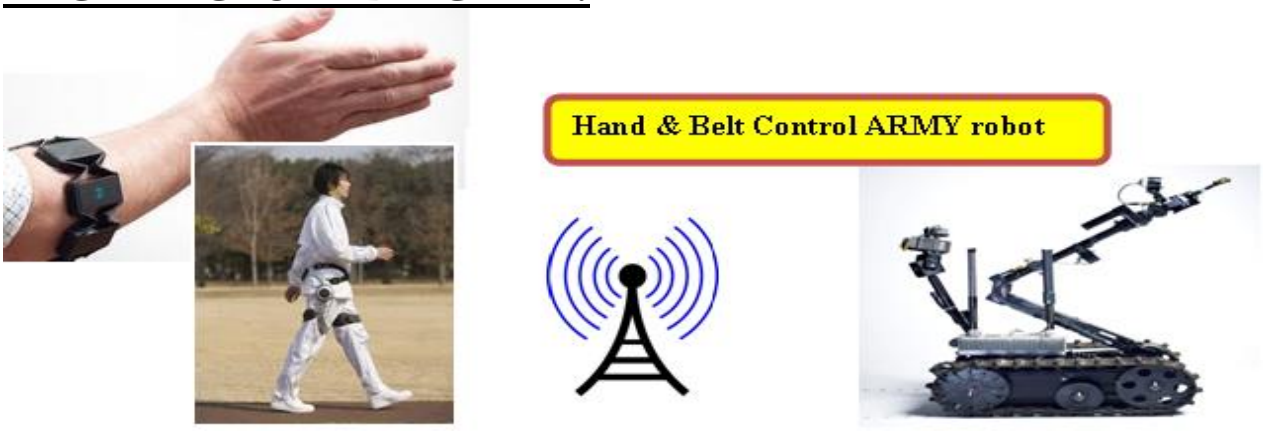
DESCRIPTION: In the **EXISTING SYSTEM**, patient has to be monitored by the person present in the home or by the helpers. There is no automatic alerting system is implemented so far. In **PROPOSED SYSTEM**, Patient with temperature and gas sensor is connected and fully monitored, In case of emergency message will sent to the relatives by GSM. In the **MODIFICATION** part of this project, patient is connected with MEMS sensor to detect the fall, Heart Beat, Temperature and vibrations Sensors are connected through wireless Bluetooth. Instead of GSM communication we are implementing Bluetooth Communication with the patients Android phone. In case of emergency automatically Mobile GPS is triggered sent to the Server via mobile GSM. Server will calculate the shortest path to reach the Ambulance and also Alert SMS to send to relatives.

DOMAIN: Android, IOT, Cloud, Embedded, Society / Social Cause

IEEE REFERENCE: IEEE Paper on ICBDSC, 2016

EMS 2035. Fire Robot : AUTONOMOUS & MANUAL VOICE OPERATED INTELLIGENT FIRE FIGHTING ROBOT

ARCHITECTURE DIAGRAM:



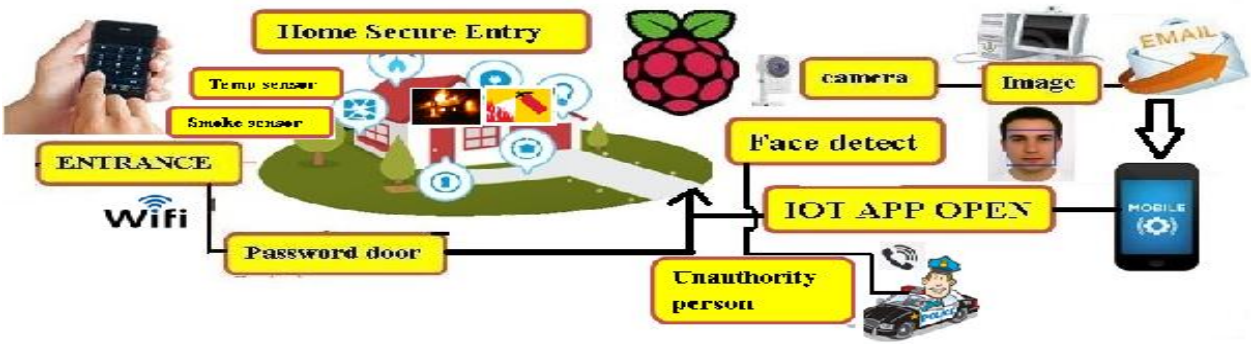
DESCRIPTION: In the **EXISTING SYSTEM** many of the army people are died while making war. There is no technological update system like robot. In our **PROPOSED SYSTEM** The Main aim of the Project is fighting army robot and Direction control of the gesture and belt based Wireless Robot. In **MODIFICATION PART** we also implement both Automatic control of Robot via recognized army human hand and controlled by belt application. In the mode, the direction of the Robot is controlled using ultrasonic Sensor. This Sensor will detect the Obstacles and control the Robot accordingly.

DOMAIN: ROBOTICS, Wireless, Android

IEEE REFERENCE: IEEE Paper on ICCE, 2016

EMS 2036. Open The Door: DEVELOPMENT OF INTELLIGENT SURVEILLANCE WITH INTRUDER TRACKING USING ANDROID

ARCHITECTURE DIAGRAM:



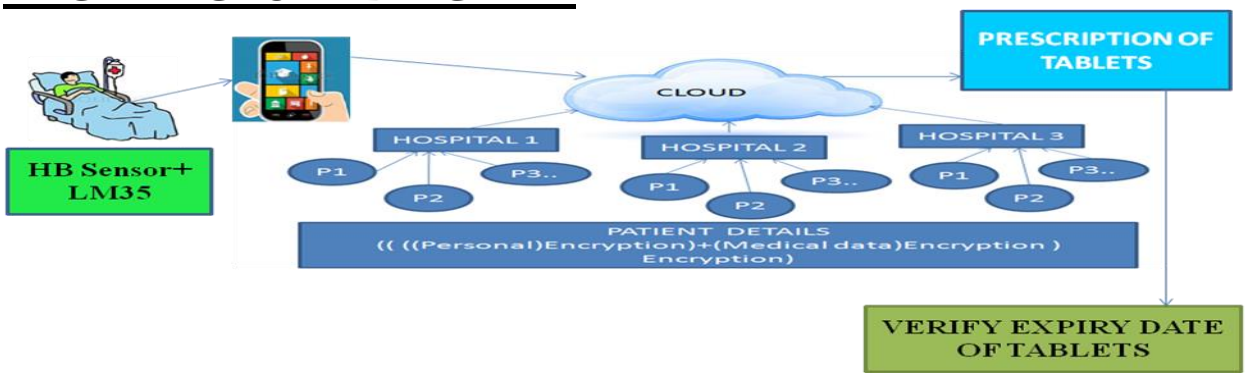
DESCRIPTION: In the **EXISTING SYSTEM**, home security is not widely used by public in some houses they prefer password door. In **PROPOSED SYSTEM**, An automatic fire detection and warning system has been designed using video camera. By using this system warning message only reached the public. In the **MODIFICATION**, which is our Implementation, if authorized person enters the house, camera captures the image & then the Password is verified THROUGH WIFI and finally door is opened. If unauthorized person enters the house then he will either press a Button or the camera will capture the image and sends to the Authority. Authority can allow the new user by sending Key through Android App or simple SMS using GSM. In case if the person is found unknown by the authority, then information is forwarded to the police with specify location of the house. This system includes temperature and smoke sensor. By using this system automatic fire detection and fire extinguishing method will be followed. This method is also includes device control like on and off system.

DOMAIN: Android, IOT, Cloud, Embedded, Open CV, Society Based

IEEE REFERENCE: IEEE Journal **on Sensors**, 2016

EMS 2037. Big Data – Hospital: BIG DATA & CLOUD INTEGRATION OF MEDICAL DATA GATHERING WITH DYNAMIC PREDICTION OF DISEASE WITH VITAL PARAMETERS ANALYSIS

ARCHITECTURE DIAGRAM



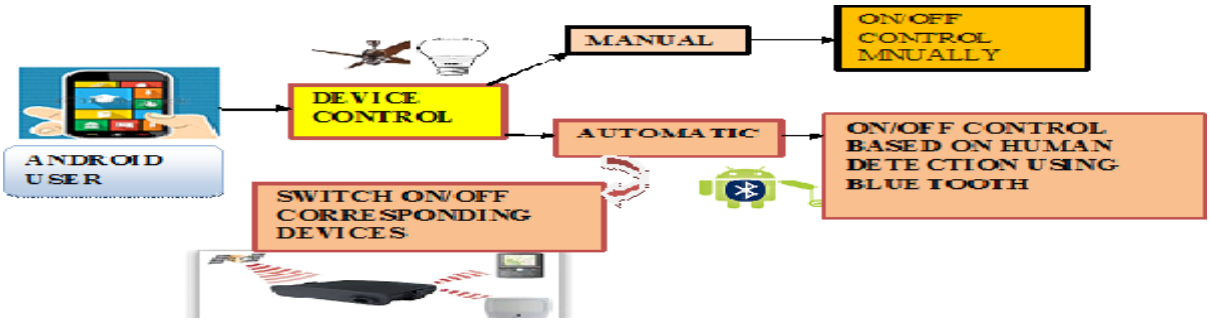
DESCRIPTION: In the **EXISTING SYSTEM**, hospitals are getting overcrowded and are having difficulties in treating the patient even in emergency situation due to increasing population. In the **PROPOSED SYSTEM,** Vital parameter finding machineries like Heart Beat, BP, and Temperature are connected with the Bluetooth hardware which communicate with the Patient's Android Application. The entire system is connected to the Cloud, Emergency support is provided immediately in case of any emergency. In the **MODIFICATION** part, from the base paper is we are integrating multiple Hospitals connected to the centralized Cloud server. Medical records from different hospitals are stored in the cloud. The main advantage is patient from one hospital visits another hospital then automatically patients records are migrated. We integrate Big Data & Cloud in this Project. Expired tablets are filtered from the distribution by verifying Batch code of the drugs.

DOMAIN : IOT, Big Data, Android, Cloud

IEEE REFERENCE: IEEE Paper on PerCom, 2016

EMS 2038. Techno House: EFFECTIVE POWER SAVER WITH AUTONOMIC CONTROL BASED ON HUMAN & SENSOR INTRUSION AND ANDROID REMOTE AUTOMATION

ARCHITECTURE DIAGRAM:



DESCRIPTION: In the **EXISTING SYSTEM**, manual device control is followed yet now in industries. Automatic device control is very challenging task. In **PROPOSED SYSTEM,** main objective of Project is to manage the Power Saver Scheme with Optimized Power Management. By designing the Android user interface and Home information centre, home appliance control system based on the Android phone can be designed. Identifying message commands and wireless encoding are the two major tasks for home information center. In **MODIFICATION**, the Appliances here in this Project can be controlled using 3 ways. 1. Manual – we can control the Devices Manually. 2. Automatic – Devices are Switched On / off based on Human Detection using Bluetooth. 3. Devices are controlled based on the Sensor Values. Bluetooth is attached in the Entrance to Track the Users. Once the BT id is Paired with Android Users corresponding Devices is Switched on in case of Automatic Mode. In the Sensor mode based on the Sensor values (Temperature) Devices are controlled. Android phone allows us anytime, anywhere to control device, and finally realizes the highly intelligent home.

DOMAIN: Wireless, IOT, Android, Control System, Society / Social Cause

IEEE REFERENCE: IEEE Paper ON ICCE, 2016

EMS 2039. Air Check – LiFi: AIR QUALITY MONITORING SYSTEM BASED ON ISO/IEC/IEEE 21451 STANDARDS

ARCHITECTURE DIAGRAM:

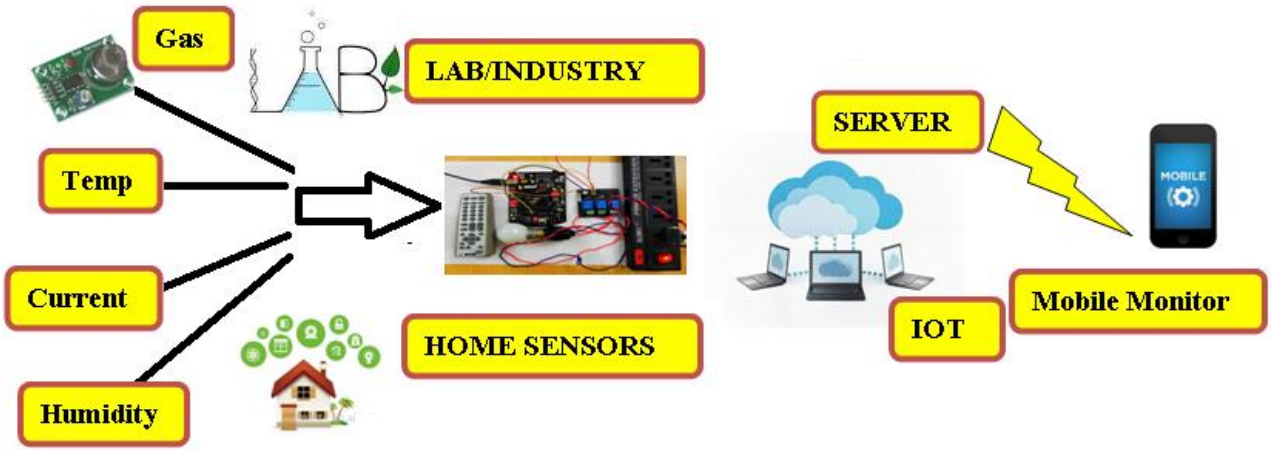
DESCRIPTION: In **EXISTING SYSTEM,** pollution control methods are developed in outdoor unit but in outdoor unit is not considered. The **PROPOSED SYSTEM** of the Project is to measure the air pollution levels. In the **MODIFICATION** part of the Project is to Monitor Air Sensor Values from Remote Place. The Sensors that we deploy in this Project is Temperature, Gas, and Humidity & Pressure. All these Sensors are monitored through ZigBee or LIFI Communication wirelessly. The Values of these Sensors are Stored in the Server for further research. SMS & E mail Alert is achieved in case of abnormality.

DOMAIN: Control Systems, Wireless, LiFi

IEEE REFERENCE: IEEE Paper on IJAT, 2016

EMS 2040. Keep me updated – IOT : IOT BASED INDOOR PERSONAL COMFORT LEVELS MONITORING

ARCHITECTURE DIAGRAM:



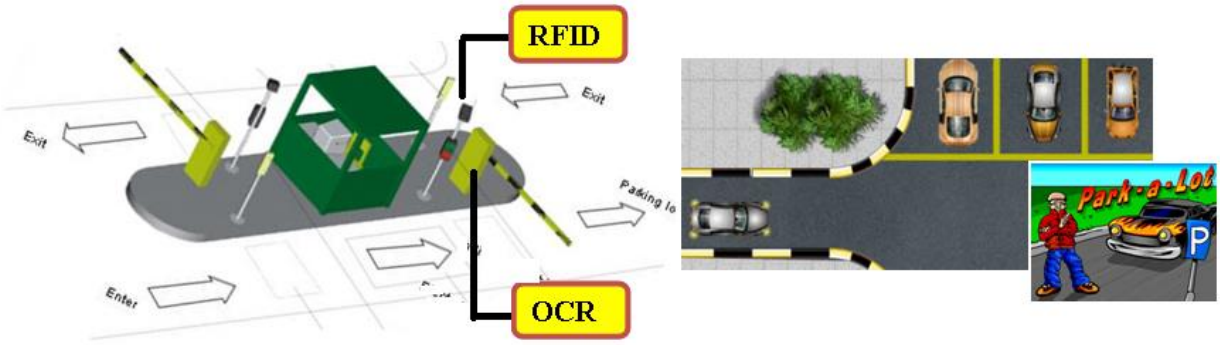
DESCRIPTION: In **EXISTING SYSTEM,** there is no means to monitor the domestic and non-domestic environments. In the **PROPOSED SYSTEM**, the Internet of Things (IoT) shall be used to monitor environments such as, say a home (domestic) and an industry (non-domestic). In the **MODIFICATION** part consists of sensing units which perceives the value of temperature and current consumed in case of a domestic environment. In case of a non-domestic environment, such as a lab or an industry, the humidity and gas is monitored. Both of these environments are clubbed and monitored on a computer connected to the cloud server (IoT).

DOMAIN: IOT, Android, Safety monitoring and sensing

IEEE REFERENCE: IEEE Paper on ICCE, 2016

EMS 2041. Two Way Park : RFID AND LICENSE PLATE RECOGNITION SYSTEMS INTEGRATED APPLICATIONS AT PARKING GUIDANCE IN SHOPPING MALL

ARCHITECTURE DIAGRAM



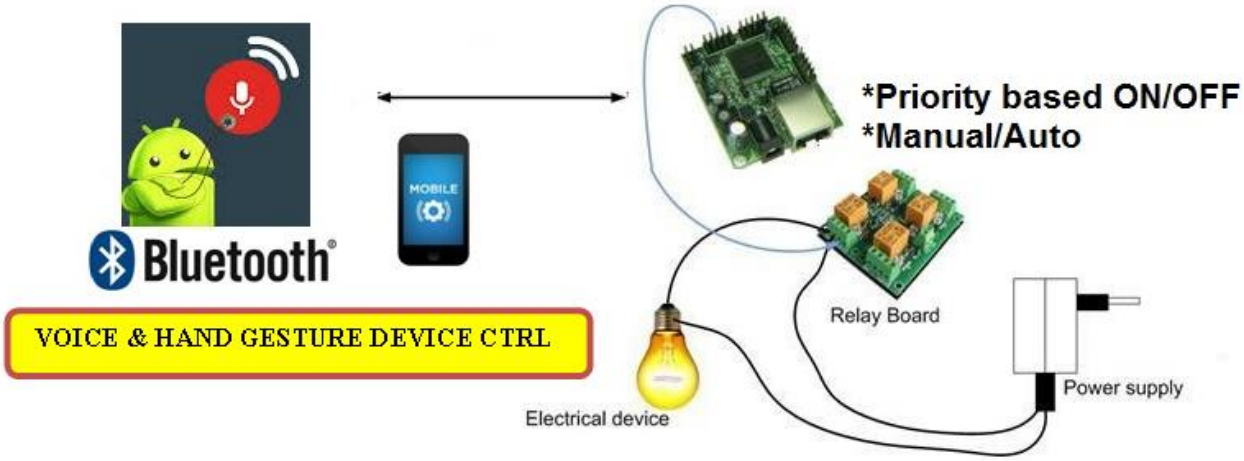
DESCRIPTION: **IN EXISTING SYSTEM,** Vehicle Parking makes lot of troubles to the vehicle owner and consumes lot of time in searching an empty lot. In **PROPOSED SYSTEM,** a sophisticated parking system based on RFID & License plate recognition technology is proposed. In our **MODIFICATION** part, RFID Tag is given every vehicle. When the registered vehicle enters the parking gate section, the reader at the Gate reads the Vehicle's Tag value. Unregistered user's number plate is detected through OCR technology. License Plate number stored in database and Also RFID tag of corresponding empty parking lot is given to the driver. The RFID Tag value of the vehicle is sent to the particular lot entry. When the vehicle approaches the lot entry, the devices at the entry will compare the vehicle ID and open/close the gate for parking the vehicle.

DOMAIN: **MATLAB**, **Image processing, Wireless, Automation**

IEEE REFERENCE: **IEEE Paper on IACI, 2016**

EMS 2042. Android Device – IOT : VOICE AND GESTURE BASED DEVICE CONTROL WITH HUMAN MONITORING WITH AND PEAK HOUR SCHEDULING USING ANDROID

ARCHITECTURE DIAGRAM:



DESCRIPTION: In **EXISTING SYSTEM,** GSM based device control is implemented through GSM communication. In the **PROPOSED SYSTEM**, Android hand gesture based device control is implemented through wireless communication. Android App is created in the user's phone to control devices. In **MODIFICATION** part we implement to add voice based device control Manual and Automatic control. Peak Hour Scheduling based device control is also implemented to avoid the high and low voltage problem.

DOMAIN: Raspberry Pi. Linux Hardware, IOT, Android, Wireless

IEEE REFERENCE: IEEE Paper on ICCE, 2016

IEEE 2015 – 16 PROJECTS

EMS 2043. Capture Thief: EFFECTIVE FACE RECOGNITION & THIEF WITH ATM MACHINE SECURITY & AUTO ALERT

DOMAIN: Image Processing, MATLAB, Wireless, Society Based

EMS 2044. Sun Power: IMPLEMENTATION OF AUTOMATIC DUAL AXIS SOLAR TRACKING TO MAXIMIZE ILLUMINATION AND HIGH BATTERY STORAGE

DOMAIN: Renewable Resources, Mechanical, Electrical

EMS 2045. Book Tracking With Alert: RFID BASED USER & BOOK TRACKING WITH AUTO ALERT NOTIFICATION & ADVANCE BOOKING SYSTEM

DOMAIN: Raspberry Pi, Linux Hardware, Wireless

EMS 2046. Reach Me When Out Of Reach : INTEGRATION OF MULTI ROBOT SYSTEM FOR EFFECTIVE JOB SHARING & RELAY BASED COMMUNICATION SYSTEM

DOMAIN: Robotics, Wireless

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EMS 2047. Card free Ticket Booking-IOT: SECURED MULTIFACTOR CARDLESS TICKET BOOKING SYSTEM USING FINGER PRINT, OTP & KEYPAD ID BASED USER AUTHENTICATION USING IOT

DOMAIN: Wireless, IOT, Society / Social Cause

EMS 2048. Five Factor Banking-IOT: INTEGRATION OF FIVE FACTOR USER AUTHENTICATION PASSWORD, RFID, FINGERPRINT, OTP & KEYPAD ID FOR SECURED BANKING

DOMAIN: IOT, Security, Wireless, Society / Social Cause

EMS 2049. Smart Office-IOT: AUTOMATIC & SMART POWER MANAGEMENT WITH ATTENDANCE SYSTEM USING ANDROID BLUETOOTH TECHNOLOGY WITH FACE RECOGNITION

DOMAIN: Wireless, IOT, Power and Control System, MATLAB

EMS 2050. Safe Train Travel: INTEGRATION OF CRACK, METAL DETECTOR WITH HUMAN IDENTIFICATION & AUTOMATIC CONTROL SYSTEM USING CAN & ZIGBEE

DOMAIN: Controller Area Network / Fiber Optic Communication

EMS 2051. Palm Verify: MULTI SERVER AUTHENTICATION SYSTEM BASED ON PALM VEIN AUTHENTICATION & SECURED OTP USING ECC

DOMAIN: Security, Image Processing, MATLAB

EMS 2052. Remote File Access: REMOTE SEARCHING METHOD FOR GETTING EXACT FILE USING THROUGH SMS

DOMAIN: Security, Social Cause / Society Based

EMS 2053. Multi Input Control: ANDROID AND MEMS BASED MULTI INPUT REMOTE WHEEL CHAIR CONTROL SYSTEM USING WIRELESS POWER TRANSMISSION SYSTEM

DOMAIN: Robotics, Mechanical, Automation, Society Based, WPT

EMS 2054. Blind Bus: ANDROID BASED VOICE GUIDANCE OF TRAFFIC, BUS MONITORING WITH SEAT AVAILABILITY, OBSTACLE IDENTIFICATION FOR BLIND PEOPLE USING OTG

DOMAIN: Android, Wireless, Social / Society based

YOUR OWN CONCEPT ALSO